

Laurence M. Huey
Field Notes
Imperial County

April 15 - June 13, 1921

April 15, 1921

Left Pasadena about 1:30 A. M., arriving in San Diego about 8:30 P. M., after a very slow uneventful journey. A heavy fog was encountered south of Oceanside, making that part of the trip very disagreeable.

April 16, 1921

I was unable to get my trap bases finished at the mill today, as they only worked till noon; so, having caught an addition to my already severe cold, I stayed indoors, keeping warm.

April 17 to 24, 1921

Busy painting and rebasing traps and repairing outfit in general. Expected to get away today (24) but Aunt May had taken a severe cold and this morning the doctor diagnosed the case as pneumonia, so the start was indefinitely postponed.

April 24 to May 3, 1921

This time was used in nursing Aunt May and is at my expense.

May 3, 1921

Aunt May decided she could stand the trip, so packed up and left about noon for the next collecting station, going via Descanso. A number of Western Tanager and Purple Martins were noted in Pine Valley. Several Martins were also seen flying over the meadows near Buckman Springs.

A suitable trapping location was found on the Pacific side of the watershed and will be known as "2 miles W. Live Oak Springs, San Diego County, California, Alt. 3400 ft (near B.M. S6-S8-S17 - S 16)." This latter will not appear on the labels, but in case of the locality not being easily placed, it can be thus traced.

A general botanical and topographical description of the surrounding country is as follows: The soil is all decomposed granite,

with small strips of alluvial loam in the bottoms of the shallow canyons. The small valley where I camped had a nice little stream of cold water running in a deep barranca while numbers of California live oaks were growing in the valley floor. The nearby hillsides were well-clothed with chapparal, though the scars of a fire some four years past still showed a ghastly effect. The chief shrubs are as follows: the most prominent being noted first: Adenostoma, Red-shank Scrub Oak, some Sage and a very few bushes of Lemonade Sumac. A few patches of Ceanothus (blue-flowered) and an occasional scattered thick-leaved Ceanothus occurred but in no way helped with the chapparal.

I set my trap line through this brushy area, as some Pocket Rat sign was visible.

May 4, 1921

My traps held 5 Dipodomys and 4 Peromyscus m. sonoriensis.

Birds were abundant in the oaks near the stream and the following species were noted: Valley Quail, Mountain Quail, Red-shafted Flickers, Nuttall Woodpecker, California Jay, Spotted Towhee, Anthony Towhee, Western Warbling Vireo, Chipping Sparrow, Hermit Warbler, Killdeer, Raven, Olive-sided Flycatcher, Wood Pewee, Western House Wren, San Diego Wren, Western Tanager, Western Bluebird, Ash-throated Flycatcher, Western Kingbird, Black Phoebe, Pileolated Warbler, Turkey Vulture, Black-throated Gray Warbler. Having a good temporary camp established, I decided to drive the Ford to the next trapping station, set my traps and return for the night.

I found a suitable locality on the east slope of the coast range and shall call it "1/2 mile W. Boulevard, San Diego County, California, alt. " This locality was formerly known as "Ruby's Ranch," or "Ruby's."

The association was comparable to the trapping ground of last night, being the same rolling decomposed granite hills, well-clothed with heavy chapparal of the same species of brush, though the order of abundance was somewhat changed. Adenostoma sparsifolia as usual covered the most area but was closely rivalled by Red-shank and Scrub Oak, while the Sage was limited to fringe along the valley floors.

My traps were set through the heavy chaparral and very little Dipodomys sign was seen. While I was away setting traps, Aunt May killed a poor-will at camp.

Birds collected today : (2 miles W. Live Oak Springs, San Diego County, 3400 ft.)

J 959 -	<u>Vireosylva g. swainsoni</u> (male)	L. 125 mm. M. C.	L. M. H.	# 149
J 960 -	<u>Spizella p. arizonae</u> (male)	140	Do.	150
J 961 -	<u>Phalaenoptilus n. californicus</u> (male)	205	"	151

Mammals collected today: (2 miles W. Live Oak Springs, San Diego County, 3400 ft.)

J 304 -	<u>Dipodomys a.</u> (male)	300 mm.	L. M. H.	
J. 305 -	Do. (female)	295	Do. 3 feet	
J 306 -	" (female im.)	250	"	(30mm.)
J 307 -	" (female im.)	245	"	
J 308 -	" (female im.)	240	"	
J 309 -	<u>Peromyscus n. gambeli</u> (male)	167	"	
J 310 -	Do. (male)	170	"	
J 311 -	" (male im.)	140	"	
J 312 -	" (male im.)	140	"	

May 5, 1921

My traps held 8 Dipodomys - a splendid catch -, 2 Peromyscus o. insignis, and 1 peculiar appearing Peromathus - probably P. c. femoralis, though this is rather far east for them.

A large migration of Warblers was passing, chiefly Pileolated, though an occasional other individual of another species was noted.

After getting up my skins, we packed up and left for the next collecting station, Carrizo Creek. A threatening storm was banking up in

the southwest, while a cold wind hastened on the coming precipitation.

While making a last purchase of fresh bread at Jacumba, Howell and van Rossem rolled in, en route to Howell's ranch at Calexico. They reported rain all the way from the coast, having accompanied the storm all the way.

When the lookout was reached where the first glimpse of the Colorado Desert may be seen from the mountains, a dismal sight met our eyes, as the dust and sand was flying high and fast; the brisk wind in the mountains had, on the open desert, turned into a gale. This sight, however, did not delay the expedition and we kept on. On reaching the Carrizo Creek turn-off and following that road as far as it was hard, I found the five miles of sandy wash impassable, the road tracks being filled level with soft sand. Carrizo Creek being inaccessible at this time, I decided to press on to Yuma Valley on the Colorado River, going via Nilands.

A large number of White-faced Glossy Ibis were seen in the alfalfa fields between El Centro and Imperial.

A sharp rain began to fall as we left Imperial, continuing until we reached Nilands. This made travel slow, as the roads were soon slippery and the soil, like putty, clung to the tires. We had supper at Nilands and spent the night one mile east.

Birds collected today: (2 miles W. Live Oak Springs, San Diego County, California. Alt. 3400 ft.)

J 962 - *Dendroica nigrescens* female 125 mm. M. C. L.M.H. #152

Mammals collected today: ($\frac{1}{2}$ mile W. Boulevard, San Diego County, California. Alt. 3500 ft.)

J 313 -	<i>Dipodomys a.</i>	female	275	L.M.H.
J 314 -	Do.	male	310	Do.
J 315 -	"	female	290	"
J 316 -	"	female	290	"
J 317 -	"	female	295	"

Birds collected today: (Bard, Imperial County, California,

Alt. 140 ft.)

May 7

J 963 -	Oporornis tolmiei	male	L. 135 mm.	M. C. L.M.H.	#153
J 964 -	Dendroica a. brewsteri	male	125	Do.	154
J 965 -	Icterus bullocki	male	195	L.M.H.	155
J 966 -	Auriparus f. flaviceps	female	105	Do.	156

May 8, 1921

My traps held 8 Dipodomys m. merriami, 1 Peromyscus e. eremicus, 1 Neotoma a. vanusta, 3 Peromathus n. penicillatus and 2 Peromathus for-
mosus. The latter two were caught on a rocky lava-covered hill where no
brush was growing. Aunt May and Edward went hunting, getting a fine bunch
of birds, including a Western Martin; and they saw two more. Vaux Swifts
were rather numerous flying with bands of Cliff Swallows, while Pileolated
Warblers were swarming. A single, White-winged Dove was heard cooing
in the cottonwoods nearby. They also saw several Cooper Tanagers, getting
a red male.

I set traps again up the desert wash north of the main canal.

Aunt May and the boy went after Poor-wills in the evening, but found them
scarce, seeing but four or five and collecting two.

I shot bats, getting 4 small ones.

Birds collected today: (Bard, Imperial County, California, Alt.

140 ft.)

J 967 -	Epidonax d. difficilis	female	L. 140 mm.	M. C. L.M.H.	# 157
J 968 -	Epidonax wrighti	male	140	Do.	158
J 969 -	Progne s. hesperia	female	195	"	159
J 970 -	Chaetura vauzi	female	115	"	160
J 971 -	Do.	male	115	"	161
J 972 -	Phalaenoptilus n. nitidus	male	200	"	162
J 973 -	Do.	female	200	"	163
J 974 -	Dendroica a. brewsteri	male	125	"	164
J 975 -	Dryobates s. cactophilus	male	190	"	165
J 976 -	Colaptes c. meamisi	female	295	"	166
J 977 -	Centurus u. uropygialis	female	215	"	167

Mammals collected today: (2 miles N. Bard, Imperial County,
California - Alt. 140 ft.)

J 525 -	Dipodomys m. merriami	male	260	L.M.H.	
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J 326 -	Dipodomys m. merriami	male	240	L. M. H.
J 327 -	Do.	male	240	Do.
J 328 -	"p	male	240	"
J 329 -	"	female	240	"
J 330 -	"	male	250	"
J 331 -	"	male	250	"
J 332 -	"	male	250	"
J 333 -	Perognathus formosus	female	185	"
J 334 -	Do.	male	190	"
J 335 -	Perognathus p. penicillatus	female	195	"
J 336 -	Do.	female	195	"
J 337 -	Peromyscus c. stephensi	female	155	"
J 338 -	Pipistrellus h. hesperus	female	88	"
J 339 -	Do.	female	72	"
J 340 -	"	female	76	"
J 341 -	"	female	68	"

May 9, 1921

My traps held 2 Perognathus sp., and 3 Dipodomys m. merriami.

The boy brought in a gopher. Aunt May and he went hunting again today, getting another Martin. I went to Yuma about noon to have the Ford spring fixed and get a few needed supplies. Back too late to set traps.

Birds collected today: (Bard, Imperial County, California - Alt. 140 ft.)

J 978 -	Helodytes b. couesi	female juv.	190 mm.	M.C.	L.M.H. #168
J 979 -	Do.	female	215	Do.	169
J 980 -	Piranga r. cooperi	male	210	"	170
J 981 -	Guiraca c. lazula	male	170	"	171
J 982 -	Do.	male	180	"	172
J 983 -	Progne s. hesperia	male	210	"	173
J 984 -	Auriparus f. flaviceps	male juv.	85	"	174
J 985 -	Vermivora r. gutturalis	female	115	"	175
J 986 -	Wilsonia p. pileolata	(?)	125	"	176
J 987 -	Icteria v. longicauda	male	185	"	177

Mammals collected today: (2 miles N. Bard, Imperial County, California Alt. 140 ft.)

J 342 -	Perognathus p. penicillatus	female	200	L.M.H.
J 343 -	Perognathus s. spinatus	male	215	"
J 344 -	Dipodomys m. merriami	male	260	"
J 345 -	Do.	male	250	"
J 346 -	"	female	240	"
J 347 -	Thomomys p. albatrus	female	235	"

May 10, 1921

Saw two Spotted Sandpipers along the canal bank. We all drove down the levee on the main canal as far as the Picacho bridge. Here the Ford was left and I hiked out in search of Round-tailed Ground Squirrels,

May 10

I saw but 2 Antelope Chipmunks, 2 Vardins, 1 Cactus Woodpecker and 3 Phainopeplas. I was fortunate enough to kill a Round-tail near Grig's place. Among the birds Aunt May shot was an Olive-sided Flycatcher, male, but it spoiled before it could be saved.

During the cotton-raising period nearly all the desert growth near the canal that was growing on irrigatable land had been cleared away, spoiling the best collecting ground we had found during 1916.

I was also very much surprised to find no Least Vireos or Vermilion Flycatchers here this year. Aunt May and Edward picked up a bunch of birds. I took a shot into a flock of Redwings, killing but two. I also had a long shot at a White-winged Dove and collected it. Traps were set again in the desert wash and the line carried over the dark lava hills.

Birds collected today: (Bard, Imperial County, California, Alt.

140 ft.)

J 988 -	Auriparus f. flaviceps	male	L. 105 mm.	H.C.	L.M.H.	#178
J 989 -	Dendroica townsendi	female	125	Do.		179
J 990 -	Chaemopelia p. pallescens	male	170	"		180
J 991 -	Vireosylva g. swainsoni	male	135	"		181
J 992 -	Epidonax d. difficilis	male	135	"		182
J 993 -	Agelaius p. sonoriensis	male	245	"partially al-		183 --
J 994 -	Do.	male	240	" binistic		184
J 995 -	"	female	260	"		185
J 996 -	"	female	200	"		186
J 997 -	Otocoris a. leucansiptila	male	180	"		187
J 998 -	Melopelia a. trudeaui	female	285	"		188
J 999 -	phalaenoptilus n. nitidus	female	190	"		189
J 1000 -	Butorides v. anthonyi	female	455	" laying		190

Mammals collected today: (2 miles North Bard, Imperial County, California, Alt. 140 ft.)

J 348 -	Thomomys p. albatrus	male	240	L.M.H.
J 349 -	Do.	male	240	Do.
J 350 -	Citellus t. tereticaudus	female	260	"

May 11, 1921.

My traps held 3 Perognathus formosus, 2 Peromyscus, 1 Perognathus f. fallax and 2 D. m. merriami. Edward brought in a few birds, but main

part of day put in by Aunt May catching up on yesterday's take. Day very hot - 110° in shade, and surely felt like it.

Saw the first Vermilion Flycatcher today. It was brought in by Edward among other birds.

My traps were set up a rocky ravine on the lava-covered mesa. The heat of the day seemed doubled in the rocky ravines as after sunset the rocks were hot to the touch.

Birds collected today: (Bard, Imperial County, California - Alt. 140 ft.)

J 1001 -	<i>Dendroica a. sonorana</i>	male	L. 115 mm.	M.C.	L.M.H. # 191
J 1002 -	<i>Pyrocephalus r. mexicanus</i>	male	145	do.	192
J 1003 -	<i>Passer domesticus</i>	female	165	"	193
J 1004 -	<i>Icterus bullocki</i>	female	195	"	194
J 1005 -	<i>Dendroica a. brewsteri</i>	female	120	"	195
J 1006 -	<i>Guiraca c. lazula</i>	male	175	"	196
J 1007 -	<i>Pipilo aberti</i>	male	175 2/3	"	197
J 1008 -	<i>Guiraca c. lazula</i>	male	180	"	198
J 1009 -	<i>Dendroica a. brewsteri</i>	male	120	"	199
J 1010 -	<i>Phalaenoptilus n. nitidus</i>	female	190	"	200

Mammals collected today: (2 miles N. Bard, Imperial County, California, Alt. 140 ft.)

J 351 -	<i>Perognathus formosus</i>	female	190	L.M.H.
J 352 -	Do.	male	195	Do.
J 353 -	"	female	180	"
J 354 -	<i>Perognathus p. penicillatus</i>	male	210	"
J 355 -	<i>Peromyscus c. stephensi</i>	female	170	"
J 356 -	<i>Peromyscus c. eremicus</i>	female	185	"
J 357 -	<i>Dipodomys m. merriami</i>	female	150	"

May 12, 1921

My traps held 7 *Perognathus formosus*, 1 *Perognathus sonatus*, 4 *Neotoma i. desertorum* and 4 *Peromyscus c. stephensi*. Part of the catch was slipping when I picked up my traps before sunrise. This I believe to be caused by the hot rocks and the fact that the animals in the heat get out of their holes soon after dark. The day again very warm, making work in the middle of the day almost impossible. When I went to set my traps I dropped Aunt May and Edward off at the river bottom to hunt. They had very good luck, killing among their nice bunch of birds 3 Cooper Tanagers. I saw lots of Night Herons along the main canal. Saw lots of Barn Swal-

lows flying this evening, in company with Roughwinged and Cliff Swallows.

Traps were set along the rim of a lava-covered mesa. As we were returning to camp after dark what we thought to be a Poor-will was seen in the road. Ed shot it and found it to be a Texas Nighthawk. This is the first instance in my experience of this bird being "Jack-lighted."

Birds collected today: (Bard, Imperial County, California - Alt. 140 ft)

J 1011 -	Dendroica a. brewsteri	male	L. 120 mm.	M.C.	L.M.H.	#201
J 1012 -	Dendroica a. rubiginosa	male	150	Do.		202
J 1013 -	Icterus bullocki	female	206	"		203
J 1014 -	Passerina amoena	male	145	"		204
J 1015 -	Otocoris a. leucansiptila	female	160	"	Laying	205
J 1016 -	Falco s. sparverius	male	265	"		206
J 1017 -	Piranga r. cooperi	female	205	"		207
J 1018 -	Do.	male	200	"		208
J 1019 -	"	male	200	"		209
J 1020 -	Chordeiles a. texensis	female	244	2.15	"	210
J 1021 -	Helodytes h. conesi	male im.	195	"		211
J 1022 -	Zamelodia melanocephalus	female	190	"		212
J 1023 -	Do.	male	195	"		213

Mammals collected today: (2 mis. N. Bard, Imperial Co., Cal., Alt. 140ft)

J 358 -	Perognathus formosus	male	185	L.M.H.	
J 359 -	Do.	female	190	Do.	
J 360 -	"	male	185	"	
J 361 -	Perognathus s. spinatus	female	180	"	
J 362 -	Peromyscus c. stephensi	male	165	"	
J 363 -	Do.	female	175	"	
J 364 -	Neotoma l. desertorum	male im.	240	"	
J 365 -	Do.	female	265	"	
J 366 -	"	female	265	"	
J 367 -	"	female	255	"	
J 368 -	Thomomys p. albatrus	male	230	"	

May 15 - also Friday - 1921

My traps held but a single Perognathus, and it was eaten up by ants. Saw 2 Farallon Cormorants flying down the Canal. Heard Horned Owl hooting last night. Put in the morning cleaning the carbon out of the Ford which had become badly choked up. After lunch I drove to a place where Round-tailed Ground Squirrels should be found. I put in several warm hours and was rewarded with only an immature Jack Rabbit, and a Cowbird. When going over to set my traps I dropped Aunt May and Edward off at the river where they collected birds. These were dated on the day

skinned - the 14th.

I set my traps up a desert wash which was bordered by the rocky, shrubless lava-covered flats. In this case these flats were but a few feet higher than the bed of the wash itself, which was not the sandy type but that of very fine silty soil.

Birds collected today: (Bard, Imperial County, Cal. - Alt. 140 ft.)

J. 1024 - *Molothrus a. obscurus* female 175mm. L.M.H. L.M.H. #214

Mammals collected today:

J. 369 - *Thomomys p. albatrus* male 260 L. M. H.
J. 370 - *Lepus c. deserticola* male 450 Do.

May 14, 1921

My traps held 10 Perognathus of 3 varieties. I had a good deal of trouble with skinning the Perognathus formosus, as the tails would slip, that is, there seemed to be an under skin which surrounds the tail vertebra and which would not let loose, causing the tail to be badly damaged in the forcible removal. I lost several specimens through this cause. Possibly the blame could be placed on the very dry weather which would commence to dry the juices in the specimen as soon as it was dead. Aunt May busy getting up yesterday's skins. The day very warm - 102° in shade. Traps were set in another wash farther west (just beyond the new government experiment farm, north of the canal.) The site chosen was through the quail-brush association, and I had hopes of getting Perognathus bonycinus, which I especially desired.

Birds collected today: (Bard, Imperial County, Cal. - Alt. 140 ft.)

J 1025 -	<i>Dendroica nigrescens</i>	female	110	M.C.	L.M.H.	#215
J 1026 -	<i>Chaenopelia p. pallescens</i>	female	165	Do.		216
J 1027 -	<i>Astragalinus p. hesperophilus</i>	male	115	"		217
J 1028 -	<i>Vireosylva g. swainsoni</i>	female	125	"		218
J 1029 -	<i>Guiraca c. lazula</i>	male	180	"		219
J 1030 -	<i>Piranga r. cooperi</i>	male	205	"		220
J 1031 -	<i>Icterus bullocki</i>	male	195	"		221

Mammals collected today: (2 mis. N. Bard, Imperial Co., Cal.)

J 371 -	Perognathus formosus	female	185	L.M.H.
J 372 -	Do.	female	200	Do.
J 373 -	Perognathus s. spinatus	male	200	"
J 374 -	Perognathus p. penicillatus	male	210	"
J 375 -	Do.	male	200	"
J 376 -	"	male	205	"
J 377 -	Thomomys p. albatrus	male	260	"

May 15, 1921

My bombycinus hopes were blasted on picking up the traps which held a very short catch: 3 Perognathus and 2 Dipodomys m. merriami. This latter species should be abundant, but owing to the general drought over Southern California this spring all the mammals are notably scarce and after last night's experience I hold little hopes of catching Perognathus bombycinus.

Had a grand exhibition of the Aurora Borealis last night, the whole northern sky being illuminated with various shades of red and green light while rays of white light, which reminded me of the shafts thrown from the powerful searchlights on the battleships, shot almost to the zenith. During one time of the exhibition fully 20 of these rays were visible.

The boys brought Aunt May a few birds in the morning.

We left camp about 5 o'clock to get the traps set in a good locality, still hoping to get P. bombycinus. I dropped Aunt May off at the river to hunt, while I went on to get out my traps. I finally set in a wide wash where lots of small dried plants had grown in the silty places, and lots of shelled husks of fine reeds gave evidence of small mammals. 70 traps were set and, after getting them out, I shot 6 small bats which were flying about in the early evening. They seemed especially abundant this evening and all appeared to be coming from the direction of the Senator Mine. I picked up Aunt May on the Main Canal crossing in a very jubilant state of mind, as she had shot 2 Clapper Rails from the canal bank

nearby. I looked the birds over and could not place their identity. She also had some Blue Grosbeaks which had been shot from a small patch of barley and woods nearby, where they had been feeding. Seven white Pelicans were seen soaring at noon.

Birds collected today: (Bard, Imperial County - Alt. 140 ft.)

J 1032 -	Guiraca c. laquila	female	170 mm.	M.C.	L.M.H.	#222
J 1033 -	Do.	male	180	Do.		223
J 1034 -	Dendroica a. brewsteri	male	120	"		224
J 1035 -	Wilsonia p. pileolata	female	120	"		225
J 1036 -	Empidonax t. trailli	male	145	"		226
J 1037 -	Agelaius p. sonoriensis	male	220	"		227
J 1038 -	Rallus	female	350	"	Breeding	228
J 1039 -	Rallus	male	375	"	Breeding	229

Mammals collected today: (2 mis. N. Bard, Imperial Co., - Alt. 140 ft.)

J 378 -	Perognathus formosus	male	195	L.M.H.	
J 379 -	Perognathus p. penicillatus	male	190	Do.	
J 380 -	Do.	female	195	"	
J 381 -	Dipodomys m. merriami	female	250	"	
J 382 -	Do.	male	250	"	
J 383 -	Thomomys p. albatrus	female	205	"	
J 384 -	Pipistrellus h. hesperus	female	80	"	1 fetus (10mm.)
J 385 -	Do.	female	72	"	2 foeti (10mm.)
J 386 -	"	female	70	"	2 foeti (10mm.)
J 387 -	"	female	75	"	2 foeti (10mm.)
J 388 -	"	male	70	"	
J 389 -	"	male	70	"	

May 16, 1921

My traps held 11 Dipodomys m. merriami, and I was very disappointed, as this was the best appearing Perognathus habitat I had yet trapped in. Aunt May busy with birds taken yesterday. About 4 P. M. we drove to Bard getting the accumulated mail, in which I noted a gun had been shipped to Yuma for me, so in we drove, getting there two minutes after five, and were refused the delivery of my package. Some mad, you bet, but to no benefit, so after making some necessary purchases, we drove back. Aunt May had her gun along and killed 1 Horned Lark and 2 each of Ground and White-winged Doves.

A terrific sandstorm came up in the afternoon, so did not set my traps this evening. I decided to concentrate on Cowbirds tomorrow.

Birds collected today: (Bard, Imperial Co., Calif., - Alt. 140 ft.)

J 1040	-	Passerina amoena	female	140 mm.	M.C.	L.M.H.	#230
J 1041	-	Guiraca c. lazula	female	170	Do.		231
J 1042	-	Do.	female	175	"		232
J 1043	-	"	male	180	"		233
J 1044	-	"	male	180	"		234
J 1045	-	"	male	180	"		235
J 1046	-	"	male	190	"		236
J 1047	-	Chaemopelia p. pallescens	male	170	"		237
J 1048	-	Do.	male	170	"		238
J 1049	-	Melospolia a. tridesui	female	290	"		239
J 1050	-	Do.	female	290	"		240
J 1051	-	Otocoris a. leucansiptila	female	160	"		241

Mammals collected today: (2 mis. N. Bard, Imperial Co., - Alt 140ft.)

J 390	-	Dipodomys m. merriami	male	255	L.M.H.	
J 391	-	Do.	male	255	Do.	
J 392	-	"	male	255	"	
J 393	-	"	male	235	"	
J 394	-	"	female	230	"	
J 395	-	"	female	245	"	
J 396	-	"	female	240	"	
J 397	-	"	female	245	"	
J 398	-	"	female	250	"	

May 17, 1921

The boys, Aunt May, and myself made an early start for the river. While they worked in the deep woods for Tanagers, I stayed outside near the arrow-weed thickets after Cowbirds which were continually flying by in fours and fives, sometimes small flocks. I have noticed this year that there appear to be more males than females of this species, and oftentimes there are as high as five males in a bunch with but a single female. I noted a unique courtship action yesterday morning on top of a telephone pole. A female was perched on the center of the top of the pole and was surrounded by five males all with their bills straight up in the air, "bittern fashion," issuing their liquid black-bird song. I was so interested in watching them that I forgot I even owned a gun, and they all got away, though this tableau was in progress nearly 2 minutes. The amount of males I took today bears out my statement in regard to the over-population. Six birds of this species were taken, of which five were males. About noon the Cowbirds seemed to

May 17-1921

bunch and fly back down river toward the ranches on the Indian reservation, probably to put the afternoon in feeding, as I noted several flocks (small) yesterday foraging in the midst of several herds of dairy cattle there. It is my belief that the Cowbirds do all their laying in the morning between sunrise and 10 A. M., as when returning from picking up my traps each morning I have seen them flying toward the river bottom in small bunches. This noon flight seems to substantiate my theory.

I noted lots of migrant Warblers through the trees and arrowweed thickets, most of which were probably of the Wilsonia group, though I closely scrutinized a Townsend which perched on a limb directly over my head. Aunt May and the boys had good fortune getting a varied bunch of birds which included 3 Cooper Tanagers. They saw and heard many more but were unable to get shots. The (same probably) pair of Cooper Hawks had their nest again in the large grove of cottonwoods and, on climbing it, it was found to contain four young a few days old. I shall later go back and destroy the whole bunch.

The violent wind again came up in the afternoon, causing me to abandon hopes of getting my traps out this evening.

Birds collected today: (Bard, Imperial Co., Calif. - Alt. 140 ft.)

J 1052	-	Molothrus a. obscurus	male	L. 200 mm.	L.M.H.	L.M.H.	242
J 1053	-	Do.	male	185	Do.		243
J 1054	-	"	male	185	"		244
J 1055	-	"	male	190	"		245
J 1056	-	"	male	190	"		246
J 1057	-	"	female	170	"	laying	247
J 1058	-	Guiraca c. lazula	female	170	"		248
J 1059	-	Do.	male	185	"		249
J 1060	-	Piranga r. cooperi	male	205	M.C.		250
J 1061	-	Do.	female	210	Do.		251
J 1062	-	"	female	205	"		252
J 1063	-	Piranga ludoviciana	female	185	"		253
J 1064	-	Do.	female	185	"		254
J 1065	-	Dendroica townsendi	female	125	"		255
J 1066	-	Wilsonia p. pileolata	female	125	"		256
J 1067	-	Icterus bullocki	female	190	"		257
J 1068	-	Chaemepelia p. pallescens	male	170	L.M.H.		258
J 1069	-	Corpodacus m. frontalis	male	145	Do.		259

J 1070 -	Melospiza m. saltonis	male	155	L.M.H. L.M.H. #260	
J 1071 -	Myiarchus m. magister	male	250	M.C.	261) First
J 1072 -	Do.	male	250	Do.	262) State
					Record

May 18, 1921

We all went hunting in the river bottom, I again specializing on Cowbirds while the rest went out for Tanagers. I killed three Cowbirds then took the Ford and drove out in desert hoping to get a Round-tailed Ground Squirrel. I noted 2 Squirrels disappear in a hole under a scrubby bush, so set two rat traps, one baited with a quid of chewed-up oatmeal, and the other with bacon. I then drove on farther. Leaving the machine I hiked over the desert with two objects in view - (1) to locate a good trapping ground for my evening set, and (2) the chance to shoot some Round-tailed Squirrels. I was fortunate in collecting one of the desired animals, though they proved very scarce. Returning, I picked up my traps which were untouched, so guess these Squirrels will all have to be shot, and it will be extremely good fortune to get even a small series, also, to secure them will take a lot of time with but small results to show for it.

I arrived at the Willow bottom and decided to try for more Cowbirds, but found the woods entirely deserted at this time of day (about 1 P. M.) by these birds.

The gang showed up with 4 Cooper Tanagers and 1 male Blue Grosbeak.

Set my traps way up the largest desert wash, starting in with the sandy-ironwood-mesquite association where the bulk of the traps were set, and ending up a small draw on the rocky mesa (Mesquite.) The only shrub growing in this small ravine was Greasewood. When crossing the rocky mesa a Peewill was flushed. She acted so queer I surely thought she had a nest and searched as best I could in the twilight. The bird would alight at different places all about 12 feet distant from me, ut-

tering queer, chattering calls. Not finding eggs, I marked the spot and shall look in the morning.

Birds collected today: (Bard, Imperial County, Cal. - Alt. 140 ft.)

J 1073	-	Guiraca c. lasula	female	170 mm.	H.C. L.M.H.	#263
J 1074	-	Piranga r. cooperi	male	195	Do.	264
J 1075	-	Do.	female	200	"	265
J 1076	-	"	female	205	"	266
J 1077	-	"	male	210	"	267
J 1078	-	Molothrus a. obscurus	female	170	L.M.H.	268
J 1079	-	Do.	male	198	Do.	269
J 1080	-	"	male	195	"	270

Mammals collected today: (2 mis. N. Bard, Imperial Co. - Alt. 140 ft.)

J 599	-	Citellus t. tereticaudus	female	260	L.M.H.	Lactating
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May 19, 1921

My traps held 9 Dipodomys m. merriami and 2 Colorado Desert Pocket Mice, in the ironwood-mesquite association, while my rocky hill creosote (Encelia) held but 1 Perognathus formosus. I looked for my Poor-will but found neither eggs nor bird. The only explanation I can offer for the peculiar actions of the female bird (which was close enough for me to say female positively) was that somewhere nearby she had heavily incubated eggs or young; and, just coming from her nest, for the evening forage, saw me walking about over the rocky mesa; and, being the first animate object, recognized a possible enemy; and the maternal instinct arising, tried to lure me from the general direction of her nest. Aunt May took the day to catch up her work - washing, etc. - though the boys brought in a few birds.

Set my traps through the most sandy part of the big wash. Very little animal sign was seen and practically no annual vegetation prevailed. This is due to the very slight rainfall during the past winter and explains the scarcity of small ^{and} animal life. I noted lots of medium-sized holes probably used or made by Dipodomys deserti but uninhabited now, though I searched carefully. A short line of traps was strung up a small ravine through the rocky Encelia association.

May 19-1921

Birds collected today: (Bard, Imperial County, Cal. - Alt. 140 ft.)

J 1081 -	<i>Gairaea c. lasula</i>	female	170	M.C. L.M.H.	#271
J 1082 -	<i>Passerina amoena</i>	female	155	Do.	272
J 1083 -	<i>Spizella breweri</i>	female	155	"	273
J 1084 -	<i>Piranga ludoviciana</i>	male	185	"	274
J 1085 -	<i>Chordeiles a. texensis</i>	male	230	"	275
J 1086 -	<i>Myiochanes r. richardsoni</i>	male	165	"	276

Mammals collected today: (2 mis. N. Bard, Imperial Co., - Alt. 140 ft.)

J 400 -	<i>Perognathus formosus</i>	female	185	L.M.H.	
J 401 -	<i>Perognathus p. penicillatus</i>	male	185	Do.	
J 402 -	Do.	male	190	"	
J 403 -	<i>Dipodomys m. merriami</i>	female	240	"	
J 404 -	Do.	female	245	"	
J 405 -	"	male	255	"	
J 406 -	"	male	250	"	
J 407 -	"	male	240	"	
J 408 -	"	male	255	"	
J 409 -	"	female	240	"	
J 410 -	"	male	250	"	
J 411 -	"	male	260	"	
J 412 -	<i>Pipistrellus h. hesperus</i>	female	72	"	2 foeti (10mm.)
J 413 -	Do.	female	75	"	2 foeti (10mm.)
J 414 -	"	female	75	"	2 foeti (10mm.)

May 20, 1921

My traps held 4 *D. m. merriami*, 3 *Perognathus p. penicillatus* in the sandy-mesquite-ironwood association, while the Encelia line held 3 *Perognathus formosus* and a single *Peromyscus e. eremicus*. As I was returning from the traps I flushed a female Red-tailed Hawk from a tree near the Main Canal. Aunt May tired out from the work yesterday so did not go hunting, but the boys brought in a few birds.

In the evening all of us drove up the desert wash to set traps, which were entirely set through the Quail brush association in the soft, silty soil.

Birds collected today: (Bard, Imperial Co. - Alt. 140 ft.)

J 1087 -	<i>Myiochanes r. richardsoni</i>	male	160 mm.	M.C. L.M.H.	#277
J 1088 -	<i>Wilsonia p. pileolata</i>	female	120	Do.	278
J 1089 -	<i>Passerina amoena</i>	female	140	"	279
J 1090 -	<i>Molothrus a. obscurus</i>	male	195	"	280
J 1091 -	<i>Agelaius p. sonoriensis</i>	male	220	"	281
J 1092 -	Do.	male	220	"	282
J 1093 -	<i>Passer domesticus</i>	male juv.	100	"	283
J 1094 -	Do.	female juv.	105	"	284
J 1095 -	"	male juv.	110	"	285

Mammals collected today: (2 mis. N. Bard, Imperial Co. - Alt. 140 ft.)

J 415 -	Perognathus formosus	female	121	L.M.H.
J 416 -	Do.	male	190	Do.
J 417 -	Perognathus p. penicillatus	male	185	"
J 418 -	Do.	male	195	"
J 419 -	"	female	195	"
J 420 -	Dipodomys m. merriami	male	260	"
J 421 -	Do.	male	245	"
J 422 -	"	female	235	"
J 423 -	"	female	250	"
J 424 -	Peromyscus e. eremicus	female	198	"

May 21, 1921

My traps held 10 D. m. merriami and 6 Perognathus p. penicillatus.

No Perognathus bombycinus yet, though my hopes are not exhausted.

Aunt May and the boys spent an hour in the river bottom getting a bunch of birds, including a Screech Owl which was flying about in the daytime.

Up a small desert wash near the bridge over the main canal they killed a female Yellow Warbler, a male Black-chinned Hummer, a Pileolated Warbler, and a Plumbeous Gnatcatcher. The height of the Pileolated migration seems to have passed and small Flycatchers are abundant, mostly Wood Pewees though some Empidonax were noted. Two Black-crowned Night Herons noted on edge of main canal.

In late afternoon, after getting up my skins, I drove to Yuma for supplies and to express the gun. I did not set traps this evening as the skins have come in so fast during the past two weeks that relief from the congestion must be effected by proof-reading and packing a bunch.

Birds collected today: (Bard, Imperial Co., Cal. - Alt. 140 ft.)

J 1096 -	Dendroica a. brewsteri	female	120mm.	M.C.	L.M.H.	#286
J 1097 -	Dendroica a. sonorana	female	115	Do.		287
J 1098 -	Wilsonia p. pileolata	male	120	"		288
J 1099 -	Do. p. chrysocla	male	115	"		289
J 1100 -	Polioptila plumbea	female	100	"		290
J 1101 -	Archilochus alexandri	male	88	"		291
J 1102 -	Piranga r. cooperi	female	200	"		292
J 1103 -	Do.	female	205	"		293
J 1104 -	Otus a. gilmani	male	210	"		294
J 1105 -	Icteria v. longicauda	male	185	"		295

J 1106 -	Melospiza m. saltonis	female	140	M.C.	L.M.H.	#296
J 1107 -	Molothrus a. obscurus	male	190	"		297
J 1108 -	Zamelodia m. capitalis	male	200	"		298

Mammals collected today: (2 mis. N. Bard, Imperial Co., - Alt. 140 ft.)

J 425 -	Perognathus p. penicillatus	male	190		L.M.H.	
J 426 -	Do.	female	195		Do.	
J 427 -	"	female	175		"	
J 428 -	"	male	175		"	
J 429 -	"	female	190		"	
J 430 -	"	male	180		"	
J 431 -	Dipodomys m. merriami	male	250		"	
J 432 -	Do.	male	250		"	
J 433 -	"	male	245		"	
J 434 -	"	female	245		" 2 feet 20mm.	
J 435 -	"	female	250		" 2 feet 15mm.	
J 436 -	"	male	240		"	
J 437 -	"	female	225		"	
J 438 -	"	female	255		"	
J 439 -	Thomomys p. albatrus	female	250		"	
J 440 -	Do.	male	235		"	
J 441 -	"	male	245		"	

May 22, 1921

During the day Aunt May heard the p-r-r-r-t of a Tanager in the trees of the back yard and collected two capital spotted males - the finest ones yet.

Proofed and packed birds.

Set my traps this evening through the alkali-salt brush association. Very little sign was noted but Grinnell places this association as being the chief habitat of Peromyscus e. eremicus and, as we need this animal, I determined to try.

Birds collected today:

J 1109 -	Piranga r. cooperi	male	202 mm.	M.C.	L.M.H.	# 298
J 1110 -	Do.	male	200	Do.		
(Left half of tail yellow, right half						

May 23, 1921

My traps held 5 D. m. merriami, 2 Peromyscus e. eremicus and 3 Perognathus. This latter appear to be of two species but I cannot put their identity with certainty.

An Olive-sided Flycatcher was heard giving his "It's me ee

May 23

here," in the cottonwoods near the house this morning. I was struck with a most impressive thought this morning - the fact that Phainopepla are entirely missing through this region now, and have not been abundant or even common as our 1916 spring expedition found them. During the first week here, a single pair inhabited the mesquite in a small wash north of the main canal, but now even they have left. Probably food shortage owing to drought, though this phenomena should not be expected to affect the growth of plants in the valley floor where seepage water comes to within eight or ten feet of the surface.

The boys brought Aunt May some birds this morning.

The day very warm, almost uncomfortable. This is the first warm day since May 14, and during this period the evening chill would necessitate our jackets and coats being put on, and then the chill was not overcome, and we wished for sweaters.

About 4 o'clock we all went down to the river bottom hunting. I scouted about, finding several beaver slides on the river bank and lots of cut willow saplings where the animals had been working last winter. One stump noted was about 5 inches in diameter and cut off about 30 inches above the ground.

No birds were collected by anyone as the mosquitoes were out in vast hordes and assailed us with unusual ferocity and our stay was of very short duration.

I set my traps through the alkali-salt brush association.

Birds collected today: (Bard, Imperial Co., Cal. - Alt. 140 ft.)

J 1111 -	Dryobates c. cactophilus	female	180	M.C.	L.M.H.	#300
J 1112 -	Icterus bullocki	female	185	Do.		301
J 1113 -	Do.	female	193	"		302
J 1114 -	"	male	195	"		303
J 1115 -	"	male	190	"		304
J 1116 -	Melospiza a. trideani	female	290	"		305
J 1117 -	Do.	male	300	"		306
J 1118 -	Centurus u. uropygialis	female	215	"		307
J 1119 -	Chordeiles a. texensis	female	210	"		308

Mammals collected today: (2 mis. N. Bard, Imperial Co. - Alt. 140 ft.)

J 442 -	Dipodomys m. merriami	male	220 mm	L.M.H.
J 443 -	Do.	female	225	Do.
J 444 -	"	female	230	"
J 445 -	Perognathus p. penicillatus	female	210 4 feet 10mm.	"
J 446 -	"	male	195	"
J 447 -	"	male	185	"
J 448 -	Peromyscus c. eremicus	male	190	"
J 449 -	Do.	male im.	170	"
J 450 -	Citellus t. tereticaudus	male	250	"

May 24, 1921

My traps held 9 Dipodomys m. merriami this morning.

Aunt May did not hunt this morning as the hot weather seems to be getting the best of her. The boys brought in some good birds.

After getting up my skins, I went over in the mesquite in front of Grigg's place setting 11 traps at nests of Neotoma a. venusta. I then strung out my entire string of mouse traps through the rocky hills (encelia.) I did this to build up the series of Perognathus formosus and Peromyscus c. stephensi which live through this association.

Birds collected today: (Bard, Imperial County, Cal. - Alt. 140 ft.)

J 1120 -	Guiraca c. lazula	male	170 mm.	H.C.	L.M.H.	510
J 1121 -	Do.	female	170	Do.		511
J 1122 -	Molothrus a. obscurus	male	190	"		512
J 1123 -	Dryobates s. cactophilus	male juv.	150	"		513
J 1124 -	Do.	female juv.	140	"		514
J 1125 -	Piranga r. cooperi	male	205	"		515
J 1126 -	Chaenopelia p. pallescens	male	170	"		516

Mammals collected today: (2 mis. N. Bard, Imperial Co. - Alt. 140 ft.)

J 451 -	Dipodomys m. merriami	male	240	L.M.H.
J 452 -	Do.	male	255	Do.
J 453 -	"	female	255	"
J 454 -	"	male	230	"
J 455 -	"	female	240	"
J 456 -	"	male	240	"
J 457 -	"	female	210	"
J 458 -	"	female	250	"
J 459 -	"	male im.	215	"

May 25, 1921

My traps held 2 N. a. venusta in the mesquite, while the rocky hills line held 1 Dipodomys m. merriami (skull broken so not preserved),

4 Perognathus formosus, 3 Peromyscus c. stephensi, and 1 Neotoma i. desertorum.

On leaving the camp I noticed Yankee was not home, which was indeed unusual, nor did he return, for just as we were sitting down to breakfast a man owning a ranch about 3/4 mile south came over saying he had shot our dog, thinking him to be a bob cat. The dog probably had chased the man's cat home during the night and in doing so stirred up the chickens, this racket causing the man to kill the intruder. It nearly broke us both up as we thought a great deal of the dog who was a most devoted companion to us. Aunt May felt so bad no hunting was done, though the boys brought in two birds to her, which she skinned. I spent late afternoon searching out good Cotton Rat colonies. I located what appeared to be a fair sized colony in tules of an old slough and set my entire battery of rat traps.

Birds collected today: (Bard, Imperial County, Cal. - Alt 140 ft.)

21 - J 1127 - ~~Geothlypis~~ *Geothlypis t. scirpicola* male 130 mm. N.C. L.M.H. #517
J 1128 - *Phalaenoptilus n. nuttalli* male 200 Do. 518

Mammals collected today: (2 mis. N. Bard, Imperial County - Alt. 140 ft.)

J 460 -	<i>Perognathus formosus</i>	female	170	L.M.H.
J 461 -	Do.	female	165	Do.
J 462 -	"	male	180	"
J 463 -	<i>Peromyscus c. stephensi</i>	female	175	"
J 464 -	Do.	male im.	145	"
J 465 -	"	female im.	145	"
J 466 -	<i>Neotoma a. venusta</i>	female	380	"
J 467 -	Do.	female	325	"
J 468 -	<i>Neotoma i. desertorum</i>	female	260	"

May 26, 1921

My Cotton Rat traps held 6 specimens.

Aunt May still too broken up to hunt so stayed in camp. The day proved to be a "desert scorcher" with a temperature of 114° so very little could be done except try to keep cool with sponge baths and thin clothing. Drove over to Bard in afternoon after mail, receiving the season's instructions.

Set my rat traps again in the same runways. They had been left out - tied - and only the ones not sprung this morning were left set. These held 2 more animals which were spoiled by the heat but proved that they are partly active, like Microtus, during the day.

Birds collected today: (Bard, Imperial Co., Cal. - Alt. 140 ft.)

J 1129 - Molothrus a. obscurus male 190 M.C. L.M.H. #319

Mammals collected today: (2 mis. N. Bard, Imperial Co., Cal. - Alt 140ft.)

J 469 -	<u>Sigmodon h. eremicus</u>	male	255	L.M.H.
J 470 -	Do.	female	265	Do.
J 471 -	"	female	270	"
J 472 -	"	female	290	"
J 473 -	"	female	300	" - 6 feet
J 474 -	"	male	285	"

May 27, 1921

My Cotton Rat traps held a single rat, so after breakfast, Aunt May, the boys, and myself went hunting. Aunt May, with the boys, went to the river for Tanagers while I went to the desert in hopes of getting more Citellus. I shot one which was unfortunately right over his hole and was lost. Another Citellus was seen but was too quick in escaping to be collected. I set a trap near his hole but, on returning a couple of hours later, found the trap unsprung. I saw three Jack Rabbits near the main canal but they were too wary for approach. Three Cottontails were collected.

The day proved to be another "scorchers" and neighbors say that this kind is here to stay until the middle of September.

Aunt May had a fair bunch of birds and reported the mosquitoes almost overwhelming. The Pileolated Warblers and migrant Flycatchers nearly all gone as only a few stragglers left. Amongst the birds were two more Tanagers.

In the later afternoon, one of the boys gave Aunt May another Clapper Rail which was badly damaged. I believe these birds to be a

been
fairly common summer visitant to this region and have only/missed in
the past by reason of the fact that no competent observer has collect-
ed in this region during the very late spring and early summer.

I spent the middle of the day planning the work and route of
the coming summer. I reset all my rat traps in a new locality this
evening.

Birds collected today: (Bard, Imperial County - Alt. 140 ft.)

J 1130 -	Piranga r. cooperi	female	200	M.C. L.M.H.	\$320
J 1131 -	Do.	male	200	Do.	321
J 1132 -	Guiraca c. lanula	male	175	"	322
J 1133 -	Do.	male	175	"	323
J 1134 -	"	male	180	"	324
J 1135 -	"	male	175	" "	325
J 1136 -	Callus "	female	270	"	336 - Laying

Mammals collected today: (2 mis. N. Bard, Imperial Co. - Alt 140 ft.)

J 475 -	Sigmodon h. eremicus	female	235	L.M.H.
J 476 -	Sylvilagus a. arizonae	female	350	Do.
J 477 -	Do.	female im.	300	"
J 478 -	"	female im.	270	"

May 29, 1921

My traps held but 2 Cotton Rats and, while thrashing around in
the tules, I heard the cluck-cluck-cluck of a Clapper Rail. I rushed out
after my gun and stalked stealthily about the slough for about an hour
with no success. I am greatly handicapped in birds by reason of a slight
deafness in one ear which is in poor condition now owing to the hot days
and cooler evenings, giving me a continual sniffing cold which inter-
feres with good hearing.

After getting up my two Cotton Rats I went out on the desert
in search of Round-tailed Ground Squirrels. I was fortunate enough to
shoot three of them after considerable stalking in the hot sun. I saw
several more and shall bring over my traps tomorrow. An immature Jack
Rabbit was also collected. The boys bought Aunt May a few birds.

Replaced my Cotton Rat traps in new runways.

Birds collected today: (Bard, Imperial County - Alt. 140 ft.)

J 1137 -	Pyrocephalus r. mexicanus	male	155	M.C. L.M.H.#327
J 1138 -	Iophortyx g. gambeli	(?) juv.	88	Do.
J 1139 -	Piranga ludoviciana	male	185	"
J 1140 -	Icterus bullocki	female	185	"

Mammals collected today: (2 mis. N. Bard, Imperial Co. - Alt. 140 ft.)

J 479 -	Sigmodon h. eremicus	male	245	M.H.
J 480 -	Do.	male	290	Do.
J 481 -	Citellus t. tereticaudus	female	260	"
J 482 -	Do.	female	245	" 2
J 483 -	"	female	255	"
J 484 -	Lepus c. deserticola	female	510	"

May 29, 1921

I gathered up all the rat traps, which held but two Cotton Rats, taking them out on the desert after Round-tails. After getting up my Cotton Rats, I greased up the Ford, and, after tightening all the loose bolts on it, I drove over to see my Squirrel traps. Three animals were caught and were found to be in a bad state of decomposition when skinned. One was entirely spoiled. As soon as I could get up my skins and get lunch, I went back to the traps, hiding under a bush out of the sun and taking a peep at the traps every little while. This proved a very disagreeable way to collect, but the specimens were good when taken. About 4 o'clock the activities of the Squirrels ceased and I picked up the traps, setting them again in the Cotton Rat colony.

Birds collected today: (Bard, Imperial County - Alt. 140 ft.)

J 1141 -	Dendroica a. rugibinosa	female	120	M.C. L.M.H.#331
J 1142 -	Piranga r. cooperi	male	205	Do.
J 1143 -	Guiraca c. lazula	male	175	"
J 1144 -	Do.	male	170	"

Mammals collected today: (2 mis. N. Bard, Imperial Co., - Alt. 140 ft.)

J 485 -	Sigmodon h. eremicus	female	275	L.M.H. - 6 foeti (10mm.)
J 486 -	Do.	male im.	200	Do.
J 487 -	Citellus t. tereticaudus	female	235	"
J 488 -	Do.	female im.	225	"
J 489 -	Do.	female	260	"
J 490 -	"	male	240	" No testes

May 30, 1921

My traps held a single Sigmodon, so after breakfast, I set

forth on the Citellus trapping. I stayed with it until about noon, catching but a single animal. The heat made me sick so I returned to camp where I stayed all the rest of the day. I did not set traps this evening as I had to get a letter off to Dick in the morning.

Birds collected today: (Bard, Imperial County - Alt. 140 ft.)

J 1145 -	Auriparus f. flaviceps	male juv.	100	H.C. L.M.H.#335
J 1146 -	Icteria v. longicauda	male	190	Do. 336
J 1147 -	Wilsonia p. pileolata	female	115	" 337
J 1148 -	Auriparus f. flaviceps	male	105	" 338
J 1149 -	Guiraca c. lazula	female	175	" 339

Mammals collected today: (2 mis. N. Bard - Alt. 140 ft.)

J 491 -	Sigmodon h. oremicus	female	290	L.M.H.
J 492 -	Citellus t. tereticaudus	male	260	Do.

May 31, 1921

After writing my letter, I drove over to Bard and, finding the box not acceptable by mail, went on into Yuma. In the afternoon we went over to the canal where I cut some willow poles to make a ladder with which I am going over to some of the old mine shafts after Bats. After getting my poles, we poked about through the arrow weed looking for nests. This is the first attempt at eggs this year, and with little results. I took a set of Road-runner from a nest built in an arrow weed and about four feet above the ground.

A Rat's nest was found in an isolated arrow weed clump and, after some debate, set on fire. We watched this for some time and finally saw a very large Wood Rat run out. I shot at it, only wounding the animal, and it escaped to the other end of the bush. By this time the fire had consumed the greater part of the nest which was now a glowing bed of coals. The Rat was again discovered and routed from an unburned portion of the bush from where it dashed back to where the old nest was, finding the mass of red hot coals. The animal plunged into them and was burned to death.

No traps set tonight as I want to get an early start after Bats in the morning.

Birds collected today:

J 1150 - <i>Wilsonia p. pileolata</i>	male	125	M.C. L.M.H. #340
J 1151 - <i>Empidonax t. traillii</i>	female	145 ⁴⁵	Do. 341
J 1152 - <i>Otus a. gilmani</i>	female	220	" 342
J 1153 - <i>Agelaius p. sonoriensis</i>	female	190	" 343
J 1154 - <i>Pipilo aberti</i>	male	225	" 344

June 1, 1921

Left camp about 9:50 bound for the Sahuaro Patch located on what was known as "Duncan's Flat" 4 miles north of Potholes, where we arrived in due time. Things had changed very much since I had last visited the patch. All the largest cactuses were gone. Both those shown in Grinnell's "B. & M. of Colorado River" were among the missing and their rotting trunks were found there flat on the ground and only the decaying ribs left to tell the tale. They were probably undermined by low bursts.

We worked with the ladder, covering most of the larger pents with very little success. Only 2 occupied cavities were found - 1 Mearns Flicker and 1 Desert Sparrow Hawk. The latter were too small for skins and so were not taken.

The torrid heat finally drove us to shelter under a Palo Verde, where we stayed until trap time when about 100 or more mouse traps were strung out through the sandy wash southeast of the Giant Cactus patch.

A small colony of *D. deserti* was found and my entire battery of rat traps set at the mouths^{hs} of the burrows.

Camp was situated about one mile from the river on a rocky mesa-like place near the wash. About dusk mosquitoes assailed us by millions and threatened to destroy all peace and happiness. However, we started three large smudges, driving away the marauding insects until all of us were in bed. Ed set up a terrible clatter all the night through as the continual hum seemed to get his nerve.

June 1

About 10 o'clock we lit the gas lantern and went over the trap line - 8 or 9 D. m. merriami, 2 Perognathus p. penicillatus, and 2 Dipodomys deserti were caught. The most exciting incident of the trip occurred while making the midnight round, for as we came around a creosote bush, a Dipodomys deserti was seen blindly hopping about and of course Edward and I set out in hot pursuit. As long as the light of the lantern was kept full on the animal, it seemed unable to perambulate speedily, but on the first shadow, a terrific speed was shown, some bounds, I fully believe to have been four feet, with but slight hesitation between each jump. However, after fully 100 yards of chase, causing everyone concerned to be well out of breath, the Dipodomys was cornered and captured.

Birds collected today: (4 mis. N. Potholes, Imperial Co. - Alt 140 ft.)

J 1155	-	<u>Colaptes c. mearnsi</u>	male juv. 225	M.C.L.M.H. #545
J 1156	-	Do.	female juv. 225	Do. 546
J 1157	-	Do.	female juv. 220	" 547

June 2, 1921

A survey of the traps this morning revealed another installment of the same species taken from the traps last night. Altogether 20 D. m. merriami, 5 Perognathus p. penicillatus and 4 Dipodomys deserti were taken.

I was rather disappointed in not finding P. bombycinus, but shall try again, as it is for the first time.

Returning, a large colony of Leaf-nosed Bats was located in an old mine tunnel, but I was unable to collect any specimens as they all flushed too quickly, going to an inaccessible part of the mine.

Saw a few White-throated Swifts flying over the mesa.

After getting up my skins, I set all the rat traps at Neotoma nests in the mesquite.

Birds collected today: (Barl, Imperial County - Alt. 140 ft.)

J 1158	-	<u>Molothrus a. obscurus</u>	female	170	M.C. L.M.H. #548
J 1159	-	Do.	female	170	Do. 549
J 1160	-	<u>Guiraca c. lazula</u>	male	175	" 550
J 1161	-	Do.	female	180	" 551
J 1162	-	"	male	170	" 552

Mammals collected today: (4 mis. N. Potholes, Imperial Co. - "Duncan's Alt. 140 ft. Flat.")

J 493 -	Dipodomys deserti	female im.	325	L.M.M.
J 494 -	Do.	male	335	Do.
J 495 -	"	female	365	"
J 496 -	"	female	345	"
J 497 -	Perognathus p. penicillatus	female	160	" 4 feet (15mm.)
J 498 -	Do.	male	195	"
J 499 -	"	male	210	"
J 500 -	Dipodomys m. merriami	male	220	"
J 501 -	Do.	female	245	"
J 502 -	"	male	250	"
J 503 -	"	female	230	"
J 504 -	"	female	250	"

June 3, 1921

My rat traps held 4 Neotoma a. venusta. After getting up the rats and a rabbit I had collected, I drove to Bard after mail. Near the schoolhouse I saw a small flock of Cedar Waxwings, about 10 in number. Got my stuff together this afternoon and left for another try after P. bombycinus. I set my traps in several short lines in different localities. While the association chosen was always the creosote brush, I tried several types of soils - silt, aeolian sand, and rocky and sandy mixed. This method I believe will at least get a specimen of the elusive pocket mouse if any exist in the locality.

Heard coyotes in several directions during the night.

A stiff hot north wind was blowing in the early evening but subsided about 10:30 P. M. when I went over the traps with the gas lantern. Very little animal life had been about at that time, probably due to the wind. My traps held 2 Perognathus and 2 Dipodomys m. merriami. My rat traps set in the deserti colony had not been disturbed by rats but what appeared to be the tracks of a Kit Fox were much in evidence. Apparently the animal had sniffed into a Schyler and for his sniffing received a sharp crack on the nose. He was not to be so chastized with the next trap, for it had been moved away from the deserti burrow a distance of four feet and the trap's delicate trigger not touched off. The scrapping print of the fox's foot was plainly visible.

Birds collected today: (Bard, Imperial County - Alt. 140 ft.)

J 1163 -	Guiraca c. lazula	female	170	M.C. L.M.H.	355
J 1164 -	Icterus bullocki	female	190	Do.	354
J 1165 -	Otocoris a. leucansiptila	male	175	"	355
J 1166 -	Melospiza a. trudeaui	male	300	"	356

Mammals collected today: (2 mis. N. Bard, Imperial Co. - Alt. 140 ft.)

J 505 -	Neotoma a. venusta	female	365	L.M.H.	
J 506 -	Do.	female	370	Do.	
J 507 -	"	female	325	"	
J 508 -	"	female	510	"	
J 509 -	Sylvilagus a. arizonae	male	520	"	

June 4, 1921

My traps this morning hold 3 more Perognathus and 7 D. m. merriami, while my deserti traps were untouched, though evidence was seen of the animals being active during the night.

After returning from the trap rounds last night, I put in the most miserable night ever put in during my collecting experience. After the wind went down, the temperature did not fall, remaining at about 80° and millions of mosquitoes, all hungry and persistent of goad. The unusual temperature made it uncomfortable to keep covered up tight in bed, but when the mosquitoes attacked even through every hole in the bedding, life was unbearable and sleep impossible, and, believe me, camp was astir long before daylight.

En route back to camp I collected 6 Leaf-nosed Bats from the colony in the old mine shaft with a butterfly net. The more I use this implement for bat collecting, the better I like it, for the animals are taken unhurt and can be kept in a sack until a convenient time to skin. After getting up the dead animals, I helped Aunt May get started to pack. We proofed all material to date.

Mammals collected today: (4 mis. N. Potholes, Imperial Co - Duncan's Flats - Alt. 140 ft.)

J 510 -	Perognathus p. penicillatus	female	205	L.M.H.	
J 511 -	Do.	female	210	Do.	
J 512 -	"	male	175	"	
J 513 -	"	male	160	"	

J 514 -	Dipodomys m. merriami	male	²⁴⁰ 245	L.M.H.
J 515 -	Do.	male	260	Do.
J 516 -	"	female	245	"
J 517 -	"	male	245	"
J 518 -	"	female	250	"
J 519 -	"	female	240	"
J 520 -	"	male	260	"

(The following specimens were taken $1\frac{1}{2}$ mi. N. Potholes - "Peace-maker Mine.")
Alt. 250 ft.

J 521 -	Macrotus californicus	female	95	L.M.H.	1 foetus (25mm.)
J 522 -	Do.	female	97	Do.	1 foetus (25mm.)
J 523 -	"	female	95	"	1 foetus (25mm.)
J 524 -	"	female	100	"	1 foetus (25mm.)
J 525 -	"	female	95	"	1 foetus (25mm.)
J 526 -	"	female	97	"	1 foetus

June 5, 1921

Put up my six Bats this morning and, on skimming them, found they were all females in a far advanced state of pregnancy; so far, in fact, that the foeti were turned sidewise preparatory to birth. On opening the sack to catch the last bat, she was then giving birth to an offspring which, when born, was entirely hairless and its ears very short. The fact that this animal was appearing tail first may be proof of a premature birth, but at any rate, within a day or two the whole Macrotus colony will have given birth to their young. Helped Aunt May pack and went over the Ford preparatory to departure tomorrow.

Summing up the results of this trip, I find I have put up 225 mammals and 21 birds, a total of 244 skins for the time commencing May 4 and ending June 5. Of this time three days were consumed in travel, 2 days unfavorable for collecting due to weather, and 5 days lost by other pursuits - proof reading, packing and making camps - leaving actual collecting days, 24, on an average of 10.16 skins per day.

Aunt May's time - 187 bird skins in the same length of time with a result of an average of $\frac{21}{704}$ 7.79 per day.

The net results of the trip were a total of 411 bird and mammal skins in 24 collecting days.

June 6, 1921

Left camp bound for San Diego about 10 o'clock, taking all the packed-up material to Yuma for shipment. The route taken was via the Picacho road almost to the mesa where a turn to the left took us on a route that dodged all the very bad sand. We did get off the right road just before getting to Ogilby and were delayed about four hours. Leaving Ogilby at dusk, the rest of the trip to Nilands was made in the dark. En route 4 Dipodomys deserti were caught alive, being dazed by the headlights of the Ford. These animals were confined in a bucket alive, as I wanted to bring them through for capture animals to study. Just as I pulled over the railroad at Nilands, the gas ran out and, as there was no one stirring about at this hour, we rested until dawn.

June 7, 1921

After refilling with fuel, the trip was resumed with an early breakfast at Brawley, thence to Calexico, where I found my brother and made the purchase of tire tube and shock absorbers. While here, a fellow pointed out a broken front spring on the Ford. One bad turn followed another as, on close inspection, the pipe leading from the gas tank was found leaking, having been chafed by the speedometer chain. This accounted for the unusually large amount of gas consumed while at Yuma and crossing the desert. The fortunate part was the fact that the Ford had not taken fire as the leak was within one inch of the exhaust pipe.

At Calexico I replaced the captured Pocket Rats in a large box and found that they had bitten each other's tails off. The animals finally died en route home and, being of no use as specimens, were thrown away.

The last event of the day and the one which came nearer disaster than any was when the oil pipe fell off just as I was leaving Calexico. By fortunate chance, I looked back and saw a long trail of oil behind. I returned to the garage, where the vital parts of the car were looked over and the oil replaced.

I reached San Diego about 8:50.

June 8, 1921

to

June 13, 1921

Busy - waiting for word from D. R. D. and repairing Ford outfit, etc.

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